

Fisheries Extension Enhancement – Progress Report ***Great Lakes Region***

The Great Lakes constitute the ‘fourth coast’ of the United States, a freshwater coastline that exceeds the individual lengths of the Atlantic, Gulf and Pacific coasts (GLERL). Over 170 fish species in the Great Lakes basin provide the basis for a productive and thriving fish community utilized by a wide diversity of user groups. The contribution of the state-licensed and treaty fisheries in the U.S. Great Lakes region today is substantial, though in decline. In the 1990s, around 700 full-time commercial fishers were licensed in the U.S. waters along with 300 Native American licensed fishers (Ferrari and Taylor 2000). Total annual landed-value of the U.S. commercial fishery in the Great Lakes was estimated at nearly \$18 million in 2000 (USGS 2002¹). This active commercial fishery coexists with a thriving and diverse sport fishery. Across the Great Lakes, over 1.8 million anglers spent over 23 million days angling in the U.S. waters of the Great Lakes in 2002. The sportfishing industry has brought new life to many coastal communities - many develop their shorelines with sportfishing clients in mind. Total economic impact of fishery on the Great Lakes contributes between \$4.3 and \$7.4 billion dollars to the regional economy (Talhelm 1988², Lupi 2003³).

FEE Regional Coordination – The Great Lakes region designated Dr. Rochelle Sturtevant (Great Lakes Sea Grant Network at NOAA-GLERL) as the regional fisheries extension enhancement coordinator and established a formal regional FEE committee consisting of a representative of each state program. The committee maintains active email communications and meets via conference call on an ad hoc basis and formally in a session at our network meeting every 18 months. Information on the committee, regional and state priorities (strategic plans), resource lists and partner information have been synthesized and are available through a website

(<http://www.glerl.noaa.gov/seagrant/FEE/FEEInventoryOrganization.html>) developed and maintained by the regional coordinator. The Great Lakes regional FEE committee developed a series of themes for fisheries extension enhancement which are grounded in our current strategic plans. With feedback from the committee, the regional coordinator developed theme sheets (2-pagers) for each theme which place the priorities in regional and national contexts, outline current activities, and set specific priorities for action. These have been distributed to our active regional partners via the Great Lakes Fishery Commission’s Lake Committee meetings in March 2006.

¹USGS (U.S. Geological Survey). 2002. www.glsc.usgs.gov/data/noaa/noaa00.txt

²Talheim, DR. 1988. Economics of Great Lakes Fisheries: A 1985 Assessment. Great Lakes Fishery Commission, Tech. Rept. No. 54. Ann Arbor, MI.

³Lupi, F. 2003. Pers. Communication.

Coordination and Expansion of the Great Lakes Fisheries Leadership Institute – Regional coordination of an expanded Lakes Fisheries Leadership Institute (GLFLI) across the 8-state network was proposed as a significant component of the regional coordination responsibilities for the Great Lakes region. Program components funded via coordination dollars were to include long-term evaluation of the pilot cohort, development of a methodology handbook, enhancement of both the public and coordination websites, updates to the curriculum, and meetings with our core external advisors (partner agencies: GLFC, USFWS, USGS, NOAA-GLERL). Unfortunately, only Ohio has secured funding for continuation of a GLFLI program, so coordination efforts have been minimal.

Development of a methodology handbook was folded together with a ‘final report’ on GLFLI as a web-based notebook available at www.glerl.noaa.gov/seagrant/GLFLI/Notebook/Notebook.html. The notebook includes all elements of the planned handbook: formatting standards, logos, application forms, recruiting tools such as brochures, ordering information for program elements (pins, totes, binders), certificates, evaluation tools, and electronic copies of curriculum as well as evaluation of the final program (including photos from various sessions). A public version of the notebook is also available (includes the core evaluation, but lacks detailed information on participants and the program planning tools) through the network website... <http://www.greatlakesseagrant.org/leadership.html>

Ohio Sea Grant will be sponsoring a 2006 Lake Erie GLFLI training workshop on June 2nd-4th at Stone Lab. They anticipate at least 10 participants interested in enhancing their capacity as ‘emerging fisheries leaders’. This program will use most of the curriculum materials developed under the original GLFLI project.

Lake Champlain Sea Grant has developed a local (Lake Champlain) version of the GLFLI ANS Module which will be finalized in June 2006. This will be distributed to the Lake Champlain GLFLI participants (2004 class) among others.

Extended distribution of GLFLI products:

- The Wisconsin Fish-ID CD’s have been produced and are being distributed to the original GLFLI classes (alumni) by all programs.
- Life of the Lakes has seen a broad continuing distribution including:
 - 50 newspaper reporters that visited the Erie coast (on a field trip) while attending an international conference at Pittsburgh,
 - 299 books and 758 posters distributed by MI Sea Grant (mostly to K-12 educators),
 - 34 books and 24 posters distributed by Wisconsin Sea Grant to diverse audiences from New Brunswick to Florida.
- Institutional Arrangements for Great Lakes Fisheries Management. Jennifer Read, Michigan Sea Grant.
http://www.miseagrant.umich.edu/downloads/fisheries/read_presentation.pdf Total Downloads: 826

- Great Lakes Commercial Fisheries. Ronald Kinnunen, Michigan Sea Grant.
<http://www.miseagrant.umich.edu/downloads/fisheries/GLCommercialFinal.pdf> Total
Downloads: 216
- Michigan's Great Lakes Charter Fishing Industry in 2002. Chuck Pistis,
Michigan Sea Grant and Frank Lichtkoppler, Ohio Sea Grant.
<http://www.miseagrant.umich.edu/downloads/fisheries/MI-charter-fishing.pdf> Total
Downloads: 178

GLFLI alumni:

- Luther Norman is a member of Dave Kelch's (Ohio Sea Grant) advisory
committee. Luther participated in the first GLIFLI Class in 2003

Ohio Sea Grant Fisheries Extension Agent - The goal for this project is to enhance the delivery of fisheries extension services to constituents; to promote sustainable Lake Erie, Great Lakes and U.S. fisheries resources; and to fully engage the private sector and state, regional and federal fisheries management agencies with the Ohio Sea Grant College Program. The targeted audience for this project is the Lake Erie sport fishery, its industries and participants. Special emphasis is given to youth and women, audiences shown to be underrepresented in the sport fishery.

While this program is still in an early stage, efforts to develop sport fishing and increase participation are anticipated to bring eventual increases in retail sales and services.

During this reporting period, the project has focused on 3 critical areas: communication of fisheries information to stakeholder leaders and the general public, women in fisheries, and recruitment of youth into fishing. The program has made significant progress in all 3 areas.

- A coordinated effort to consolidate fisheries information into a form usable by the general public now has the participation of the Great Lakes Fisheries Commission, U.S. Geological Survey (Lake Erie Biological Station), Ohio Division of Wildlife, the Great Lakes Sport Fishing Council and the Lake Erie Charter Boat Association.
- Women are the most underrepresented audience within the fishing community. The Ohio FEE effort has developed special women's program to increase female participation through seminars, publications, and hands-on training programs.
- Special programs to recruit youth into fishing have become one of Ohio's most popular FEE program areas and are receiving praise from fishery agencies and fishing organizations.

Leadership by staff on boards and committees: K. Riesen – Ohio Sea Grant FEE Advisory Committee (coordinator), Great Lakes Sea Grant Network 2006 Conference Committee, Ohio Central Basin Steelheaders - Board of Directors, Women in the Outdoors – Black River Chapter Planning Committee, Rocky River Watershed Council Planning Committee

Local, regional and national interactions/collaborations including with NOAA programs:
Ohio's FEE program is in documented partnerships with the following organizations:

| | Information Dissemination | Teaching/Training | Field Research | FEE Advisory Committee |
|---|------------------------------|-------------------|----------------|---------------------------|
| Great Lakes Fishery Commission | X | | | X |
| U.S. Geological Survey—Lake Erie Biological Station | X | | X | X |
| Ohio Dept. Of Natural Resources— Division of Wildlife | X | X | X | X |
| Lake Erie Marine Trades Association | X | X | | X |
| Lake Erie Charter Boat Association | | X | | X |
| Great Lakes Science Center— Cleveland | | X | | |
| Lake Erie Nature and Science Center | X | X | | X |
| Great Sport Fishing Council | X | | | X |

Products

Refereed Presentations

- Snyder, F.L., F. Lichtkoppler, J.M. Reutter, D.O. Kelch, and K. Riesen. 2006. Revitalizing Ohio's Lake Erie sport fishery through fisheries extension enhancement (FEE). Accepted for oral presentation. American Fisheries Society, 136th Annual Meeting, Sept. 10-14, 2006, Lake Placid, New York.
- Riesen, K.E. 2005. Women: sport fishing's untapped market. American Fisheries Society, 135th Annual Meeting, Sept. 11-15, 2005, Anchorage, Alaska.
- Kelch, D, F. Lichtkoppler, B. Sohngen and K. Riesen. 2005. Social and environmental factors impacting preferences and expenditures of Ohio's Lake Erie

tributary steelhead anglers. American Fisheries Society, 135th Annual Meeting, Sept. 11-15, 2005, Anchorage, Alaska. (K. Riesen presenting author)

Powerpoint Presentations

- “Women: Sport Fishing’s Untapped Market”
- “Ladies: Let’s Go Fishing”
- “Taking the Kids Fishing”
- “Steelhead Fishing Tips”
- “Fly Fishing for Steelhead”
- “Lake Erie Classroom Jeopardy”

Fact Sheets

- “Where to Take Kids Fishing in Northern Ohio”
- “Taking Kids Fishing”
- “Websites for Lake Erie Anglers”

Displays

- “Fishing is Fun/Take Me Fishing” Lake Erie Nature and Science Center

New courses developed:

- OSU College of Education, School of Physical Activity and Education Services: PAES-140.07; Three undergraduate credit hours. Ten students in 2005.
- Lake Erie Sport Fishing Workshop: non-credit course offered at F.T. Stone Laboratory, new for 2006.

Sport and boat shows:

- Maintained booths at six events; total attendance in excess of 100,000 people.

Industry:

- Program coordinator teaches at the annual Ohio Charter Captain’s Conference

Use of products for public education:

- Lake Erie Nature and Science Center distributes FEE education materials to students and the public

Individual consultations with clients/users:

- Approximately 630 consultations in this reporting period, including requests for information.

Media interest:

- Quoted in Lorain Journal, March 2006, “Steelhead Fishing”
- Articles published in Lake Erie Nature and Science Center’s “Erievews” (June 2005), Ohio Outdoor Magazine (January 2006), and Ohio Sea Grant’s “Twinline” (August 2005)

Sponsorship of education programs and target audience participation

| Type of Program | No. of times offered | Total participation |
|-----------------------------------|----------------------|---------------------|
| Recruiting Youth into Fishing | 15 | 602 |
| Fishing Information and Training | 22 | 1,788 |
| Recruiting Women into Fishing | 5 | 341 |
| Lake Erie Environmental Issues | 7 | 556 |
| Youth Aquatic Science Training | 6 | 969 |
| Handicapped Fishing Opportunities | 1 | 41 |

Demographics of contacts and efforts

- Thirty seven percent of teaching efforts have been targeted at youth
- Women have comprised eight percent of the targeted audience
- Minorities have comprised approximately six percent of the general audience

Leveraged funding -

- Leveraged in-kind support is provided by the Lake Erie Nature and Science Center which provides:
 - office space, utilities, and secretarial support: estimate value \$12,000/year
 - program publicity, use of meeting rooms: estimated value \$3,000/year
- Tuition and fee waiver for enhanced fishery training from The Ohio State University: \$4,071
- USGS Lake Erie Biological Station training in lower trophic level assessment (16 hours): estimated value \$800
- Program advertising and promotion by Lake Erie Marine Trades Association, Lake Erie Nature and Science Center, Ohio Department of Natural Resources: estimated value \$400

Evaluation for all products: Evaluation of these FEE programs include: Extension Evaluation of Effective Teaching (EEET), requests and use of products by clientele, activity reports and participation records, and the development of a fishery education team composed of federal, state, and local agencies and foundations. Evaluations are being developed to measure clientele responses, implementation, and behavior changes.

Relationship of products to other SG program elements: All products are produced jointly with Ohio Sea Grant Extension and Communications

Commercial Fishing Program

The goal of this project is to identify and cultivate new markets resulting in a higher unit value received for Great Lakes whitefish. The project assists the industry in developing additional products which are competitive in the marketplace and compatible with sustainable fishery management goals. Objectives include:

- market assessment,
- development of a sustainable marketing plan,
- adoption of new handling and processing techniques,
- feasibility study for the development of value-added products,
- consumer education leading to market acceptance,
- identification of a producer core for a brand-labeled product,
- diversifying the harvest through assessment of feasibility of harvesting siscowet for fish oil production.

Descriptions of most important impacts:

For the first time, all segments of Michigan's commercial fishery have come together to discuss their common welfare and generate a consensus action plan, including a plan to create marketing opportunities.

The project steering committee developed a quality assurance product certification guideline describing minimum requirements for whitefish products to carry the Select Michigan Whitefish label.

Two sensory analysis testings of whitefish products have yielded helpful information for the Michigan industry. In the first, participants favored the Michigan Great Lakes product 2:1 over whitefish harvested from inland lakes in Canada. In the second, participants judged frozen Great Lakes whitefish product as equally satisfactory as fresh caught Great Lakes whitefish.

Natural resource agencies on Lake Superior are investigating the viability of a siscowet fishery which would yield oil for the food supplement trade and would help diversify that lake's commercial fishery.

Members of the Great Lakes Indian Fish and Wildlife Commission participated in a whitefish marketing workshop and, as a result, the Keweenaw Bay, Red Cliff, and Bad River Indian Communities will use lake whitefish marketing materials to help with their fish sales. They have also secured additional grant money to purchase specialized equipment for their Native American fish processors to ensure the highest quality product is produced. The grant money also purchased a traveling trailer, fish boil and fish fry equipment to be used at large public events to promote and sell Great Lakes whitefish. Michigan Sea Grant Extension has been a partner in these efforts.

Leaders of the Sault Ste. Marie Tribe of Chippewa Indians and their consultants are receiving research-based guidance on the feasibility of building a new fish processing plant before they make a substantial investment of their resources.

Positive environmental impacts and economic benefits resulting from changes in behavior of individuals, businesses, and institutions:

- Changes in behavior of target audiences – Participants have demonstrated significantly greater interest in business planning and strategic, collaborative marketing
- Best management practices developed in response to extension involvement - Business planning with stronger analysis of market segments and trends; investigation of complementary, alternative products that will help diversify the industry

Leadership by staff on boards and committees: Pistis is an advisor to the bi-national Great Lakes Fishery Commission, through which he communicates with fishery stakeholders and with commissioners and staff members about concerns of the commercial fishery. Pistis is also a member of Michigan Department of Natural Resources' task forces on lakes Michigan, Huron and Erie. Kinnunen is a member of MDNR's task force on Lake Superior.

Effective local, regional and national interactions/collaborations, including with NOAA programs: Kinnunen and Pistis collaborate closely with the Michigan Fish Producers Association and with tribal leaders in the Chippewa-Ottawa Resource Authority, the Great Lakes Indian Fish and Wildlife Commission, as well as leaders of individual tribes such as the Sault Ste. Marie Tribe of Chippewa Indians, Bay Mills Indian Community, the Little Traverse Bay Band of Odawa Indians, the Grand Traverse Band of Ottawa and Chippewa Indians, Little River Band, the Keweenaw Bay, Red Cliff, and Bad River Indian Communities.

Other partners in the project include the Michigan Department of Agriculture, the Michigan Department of Natural Resources and the Michigan State University Product Center for Agriculture and Natural Resources.

Kinnunen's previous and ongoing work with these groups on Seafood HACCP (Hazard Analysis and Critical Control Point) has been particularly instrumental in building trust and collaboration around fish processing issues.

Number, list and diversity of products:

Two primary products have resulted from the effort to date:

- *Fork in the Road*, an Emmy Award-winning television series broadcast on Michigan public television stations, stars a chef/restaurateur who features Michigan food stuffs in his cooking demonstrations. The chef has used Michigan Great Lakes whitefish as a primary ingredient in several programs, and two shows have focused on whitefish. In the programs the chef described how commercial

- fishing operations harvest this product and appropriate techniques for handling and preparing fish.
- Michigan Sea Grant Communications developed a draft web site, poster and table tents to promote Select Michigan Whitefish marketing/branding. Some fish processors are adapting these items for use in their marketing strategies.

Sponsorship of education programs and target audience participation: Kinnunen and Pistis work with the Michigan Fish Producers Association each year to conduct educational programming during their annual conferences.

Individual consultations with clients/users: Kinnunen is now a certified Agriculture and Natural Resources innovation counselor, trained through Michigan State University's Product Center for Agriculture and Natural Resources. Therefore, he is in a position to offer more marketing guidance to individual businesses, as well as stakeholder associations.

Involvement with industry: Kinnunen has consulted with several fish processing businesses regarding their marketing strategies, including one which was developing a plan for producing whitefish caviar, and helped develop a HACCP plan for that process. He also consulted with one of Lake Michigan's largest fishery/processing operations about their plans to establish a retail store at their processing facility

Demographics of contacts and efforts: 34 persons participated in the product knowledge mapping and strategic planning event, including state licensed fishing and fish processing businesses, representatives of five Michigan Native American tribes and natural resource managers. More than 200 individuals have participated in sensory testings of whitefish products.

Targeted audience and evaluation for all products: The project's industry steering committee reviewed the *Fork in the Road* program for its potential usefulness in advancing public awareness of the industry and its product.

Media interest (calls, experts quoted, press clippings): *Mazina'igan* (A Chronicle of the Lake Superior Ojibwe), Michigan Sea Grant's *upwellings* quarterly newsletter; and the Michigan Land Use Institute's "Local Difference" web site.